

CLAIMS

1. A method for binding wood base elements with plastic, particularly for the production of functional elements, by means of an injection moulding method, wherein the wood base element is placed in an injection mould and molten plastic material is injected at the previously selected location or locations, characterised in that the process parameters during the injection moulding are set in such a manner that the molten plastic material is irreversibly impressed into the wood base element (2, 5, 8, 12, 17, 20, 21, 24, 26, 27, 29, 33, 34, 42, 47) and/or penetrates therein and/or passes through said wood base element.
2. The method according to claim 1, characterised in that the molten plastic material forms indentations (2a, 15a, 32a, 41) acting on the manner of undercuts on the wood base element (2, 13, 29, 33).
3. The method according to claim 1, characterised in that at least one intercalation (7, 10, 15, 22, 25, 32, 39, 40, 46) running at least substantially in the direction of the wood fibre is formed in the wood base element (2, 5, 8, 12, 17, 20, 21, 24, 26, 27, 29, 33, 34, 42, 47).
4. The method according to claim 1, characterised in that at least one intercalation (18, 51) running at least substantially transverse to the wood fibre direction is formed from plastic in the wood base element (17, 47).
5. The method according to any one of claims 1 to 4, characterised in that the plastic intercalations

(7, 10, 15, 22, 25, 32, 39, 40, 46) and/or the plastic-filled indentations (2a, 15a, 32a, 41) and similar are formed at previously constructively specified locations of the wood base element.

6. The method according to any one of claims 1 to 5, characterised in that the molten plastic material is moulded onto the wood base element so that no visible overspraying is formed on an outer side.
7. The method according to any one of claims 1 to 6, characterised in that the injection pressure at the injection moulding system is selected between 10 bar and 2500 bar.
8. The method according to any one of claims 1 to 7, characterised in that the mould internal pressure is adjusted from 50 bar to 1400 bar.
9. The method according to any one of claims 1 to 8, characterised in that the plastic is a thermoplastic material.
10. The method according to any one of claims 1 to 9, characterised in that the temperature of the molten plastic material is selected between +130 °C and 400°C.
11. The method according to any one of claims 1 to 8, characterised in that the plastic is a reactive material, for example, an elastomer or thermosetting plastic.
12. The method according to any one of claims 1 to 8 and 11, characterised in that the temperature of the liquid plastic corresponds to room temperature or is selected to be higher.

13. The method according to any one of claims 1 to 12, characterised in that the plastic injection time is selected in the range between a few tenths of a second and a few seconds.
14. The method according to any one of claims 1 to 13, characterised in that the wood base element is made of balsa, spruce, oak or beech wood or from woods in the property spectrum of these woods.
15. The method according to any one of claims 1 to 15, characterised in that the indentation(s) and/or intercalation(s) have an extension of 1 mm to several centimetres.
16. A wood-plastic composite component produced by the method according to one or more of claims 1 to 15.
17. The wood-plastic composite according to claim 16, characterised in that it is a sports device, an office article, a window, a door, an item of furniture, a floor covering, a toy, packaged goods, a machine or vehicle component, a musical instrument, a hand tool or similar.